IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Before the Board of Appeals and Interferences

In re the Application of

Inventors: Kazuyuki MIYA et al.

Appln No.: 10/069,480

Filed: February 27, 2002

For: FAST PACKET TRANSMISSION SYSTEM

AMENDED APPEAL BRIEF

On Appeal From Art Unit 2455
Examiner Shawki Saif Ismail
Confirmation No. 3434

James E. Ledbetter

Dickinson Wright PLLC
1875 Eye Street, NW, Suite 1200
Washington, DC 20006
Telephone: (202) 659-6966
Facsimile: (202) 659-1559

Attorney for Appellants

TABLE OF CONTENTS

TABLE OF AUTHORITIES

I. REAL PARTY IN INTEREST

The real party in interest is the assignee of the present application, Panasonic Corp. of Osaka, Japan.

II. RELATED APPEALS AND INTERFERENCES

There are no prior or pending appeals, interferences, or judicial proceedings known to Appellants, Appellants' legal representative, or the assignee that may be related to, directly affect or be directly affected by, or have a bearing on the Board's decision in the pending appeal.

III. STATUS OF CLAIMS

Claims 1-50 have been presented for examination. Claims 1-37 have been cancelled. Claims 38-50 stand finally rejected and form the subject matter of the present appeal.

IV. STATUS OF AMENDMENTS

No claim amendments were submitted after the mailing of the Final Rejection dated December 9, 2008.

V. SUMMARY OF CLAIMED SUBJECT MATTER

An object of the claimed invention is to provide a fast packet transmission system that synchronizes the transmission order of packets communicated by multiple base stations, each communicating only a portion of a numbered set of packets to a mobile terminal.

To achieve this or other objects of the invention, independent claim 38 defines a fast packet transmission system comprising a communication terminal MS and a plurality of base stations BTS1 and BTS2 (see Figs. 1 , 2A, 2B, 4A, 4B, 5, and 6). Communication terminal MS comprises an error detector 207 that detects an error in a received packet (see Fig. 8 and the specification on page 21, lines 18-19). A determiner 208 determines a packet number of the received packet (see page 21, lines 21-24). A selector 209 selects a base station to communicate a packet in a next transmission unit according to channel states between communication terminal MS and base stations BTS1 and BTS2 (see page 22, lines 5-10). A terminal transmitter 202 communicates acknowledgment or negative acknowledgment information indicating whether an error is detected in the received packet, request packet number information indicating the packet number of a packet that is requested to be communicated in the next transmission unit, and base station selection information indicating the selected base station, to base stations BTS1 and BTS2 (see Figs. 9 and 10 and page 22, line 17, through page 23, line 4). Each base station BTS1 and BTS2 comprises a determiner 108 that determines whether to communicate the packet in the next transmission unit based on the base station selection information (see Fig. 7 and page 17, lines 21-24). A controller 111 determines a transmission target packet based on the acknowledgment or negative acknowledgment information and the request packet number information when base station BTS1 or BTS2 communicates the packet in the next transmission unit (see page 18, lines 10-15). A base station transmitter 102 communicates the transmission target packet determined in controller 111 to communication terminal MS (see page 19, lines 16-25).

To further achieve the above-mentioned or other objects of the invention, independent claim 43 defines a base station apparatus comprising a receiver 102-106 that receives, from a communication terminal, acknowledgment or negative acknowledgment information indicating whether an error is detected in a received packet at the communication terminal, request packet number information indicating a packet number of a packet that is requested to be communicated in a next transmission unit, and base station selection information indicating a base station selected by the communication terminal according to a channel state (see Figs 7, 9, and 10 and the specification on page 16, line 12, through page 17, line 4). A determiner 108 determines whether to communicate a packet in the next transmission unit based on the base station selection information (see page 17, lines 21-24). A controller 111 determines a transmission target packet based on the acknowledgment or negative acknowledgment information and the request packet number information when base station BTS1 or BTS2 communicates the packet in the next transmission unit (see page 18, lines 10-15). A transmitter 102 communicates the transmission target packet determined in controller 111 to communication terminal MS (see page 19, lines 16-25).

To further achieve the above-mentioned or other objects of the invention, independent claim 44 defines a communication terminal apparatus MS comprising an error detector 207 that detects an error in a received packet (see Fig. 8 and the specification on page 21, lines 18-19). A determiner 208 determines a packet number of the received packet (see page 21, lines 21-24). A selector 209 selects a base station to communicate a packet in a next transmission unit according to channel states between communication terminal apparatus MS and base stations BTS1 and BTS2 (see page 22, lines 5-10). A terminal transmitter 202 communicates acknowledgment or

negative acknowledgment information indicating whether an error is detected in the received packet, request packet number information indicating the packet number of a packet that is requested to be communicated in the next transmission unit at communication terminal MS, and base station selection information indicating the selected base station, to base stations BTS1 and BTS2 (see Figs. 9 and 10 and page 22, line 17, through page 23, line 4).

To further achieve the above-mentioned or other objects of the invention, independent claim 46 defines a fast packet transmission method of transmitting a packet from a base station BTS to a communication terminal MS. The fast packet transmission method comprises detecting, at communication terminal MS, an error in a received packet (see Fig. 8 and the specification on page 21, lines 18-19). A packet number of the received packet is determined at communication terminal MS, and communication terminal MS selects a base station BTS that communicates a packet in a next transmission unit according to channel states between terminal apparatus MS and base stations BTSs (see page 21, lines 21-24, and page 22, lines 5-10). Communication terminal MS communicates, to base stations BTSs, acknowledgment or negative acknowledgment information indicating whether an error is detected in the received packet, request packet number information indicating the packet number of a packet that is requested to be communicated in the next transmission unit at communication terminal MS, and base station selection information indicating the selected base station (see Figs. 9 and 10 and page 22, line 17, through page 23, line 4). The selected base stations determine whether to communicate the packet in the next transmission unit based on the base station selection information, and determine a transmission target packet based on the acknowledgment or negative acknowledgment information and the request packet number information when base

station BTS communicates the packet in the next transmission unit (see Fig. 7 and page 17, lines 21-24, and page 18, lines 10-15). Base stations BTSs communicate the determined transmission target packet to communication terminal MS (see page 19, lines 16-25).

The references herein to the specification and drawings are for illustrative purposes only and are not intended to limit the scope of the invention to the referenced embodiments.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

1. Whether claims 38, 39, 42-47 and 50 stand correctly rejected, under 35 USC §103(a), as being unpatentable over Mohebbi (US 6,889,046) in view of Nakajima et al. (US 5,940,769).

2. Whether claims 40, 41, 48, and 49 stand correctly rejected, under 35 USC §103(a), as being unpatentable over Mohebbi in view of Nakajima and Parkvall et al. (US 6,542,736).

VII. ARGUMENT

A. Applicable Law

To establish a *prima facie* case of obviousness, all the claim limitations must be taught or suggested by the prior art. *MPEP §2143.03, first sentence; In re Royka, 490 F.2d 981, 984-985, 180 USPQ 580, 583 (CCPA 1974).* Rejections on obviousness cannot be sustained by mere conclusory statements. Instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. See *KSR International v. Teleflex Inc., U.S. Supreme Court No. 04-1350 (2007) In re Kahn, 441 F.3d 977, 986, 78 USPQ2d 1329, 1335 (Fed. Cir. 2006)* and see *MPEP §2143.01(I), first sentence of third paragraph.*

As stated in *KSR*, exemplary rationales that may support a conclusion of obviousness include:

(A) Combining prior art elements according to known methods to yield predictable results;

(B) Simple substitution of one known element for another to obtain predictable results;

(C) Use of known technique to improve similar devices (methods, or products) in the same way;

(D) Applying a known technique to a known device (method, or product) ready for improvement to yield predictable results;

(E) "Obvious to try" - choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success;

(F) Known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces if the variations are predictable to one of ordinary skill in the art;

(G) Some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or to combine prior art reference teachings to arrive at the claimed invention. See *MPEP § 2143*.

B. Rejection of Claims 38, 39, 42-47, and 50 under 35 USC 103 (a)

Claim 38 defines a transmission system having a communication terminal and a plurality of base stations. The communication terminal communicates: (1) acknowledgment or negative acknowledgment (ACK/NACK) information to the base stations indicating whether an error was detected in a received packet, (2) request packet number information indicating the packet

number of a packet that is requested to be communicated in a next transmission unit, and (3) base station selection information indicating a selected one of a plurality of base stations. The selected base station determines a transmission target-packet based on the received ACK/NACK information and the requested packet number information and communicates the determined packet to the communication terminal.

The Appellants' claimed subject matter advantageously enables all base stations communicating with a communication terminal to know the number of the next packet to be transmitted to the communication terminal. Thus, as the propagation environment changes during the communication of a sequence of packets and different base stations are selected to communicate some of the packets, each of the selected base stations will know which packet in the sequence is to be communicated next (see paragraphs [0027] and [0028] of the specification).

It is submitted that the applied references do not suggest the instant claimed subject matter or provide an ability to achieve the above-mentioned functionality.

1. Appellants' Response to Remarks in the Advisory Action

a. Response to Remarks that Nakajima Discloses an Indication of a Packet Sequence Number

The Advisory Action proposes that Nakajima discloses indicating a packet sequence number and that this disclosure renders obvious the claimed subject matter of communicating, from a communication terminal to multiple base stations, request packet number information indicating a packet number of a packet that is requested to be communicated in a next

transmission unit (see Advisory Action, page 2, last two lines). In support of this argument, the Advisory Action states that: (1) Nakajima discloses that ACK and NACK signals notify a transmission source of errors in received packets and (2) packet sequence numbers help identify which packets have been received and which need to be retransmitted (see page 2, lines 1-2 of last paragraph). Based on these statements, the Advisory Action concludes that Nakajima discloses providing an indication of a packet sequence number (see page 2, lines 2-3 of last paragraph).

The Advisory Action does not explain how indicating a packet sequence number renders obvious the Appellants' claimed subject matter discussed above. Instead, the Advisory Action proposes that Nakajima discloses adding a sequence number and redundancy bits to a data packet communicated on a forward link from a base station to a mobile station and indicating with an ACK/NACK signal in a reverse-link communication whether the data packet is properly received (see Advisory Action page 2, second paragraph).

However, Nakajima's disclosure of communicating a packet sequence number from a base station to a communication terminal is not the same as the Appellants' claimed subject matter of communicating a packet sequence number indication from a communication terminal to a base station. Moreover, Nakajima only discloses communicating a sequence number of the current packet being conveyed in a transmission; Nakajima does not disclose the Appellants' claimed subject matter of communicating an indication of the sequence number of a next packet to be conveyed. The Advisory Action does not cite Mohebbi for supplementing the teachings of Nakajima in this regard.

The Advisory Action also proposes that Nakajima discloses transmitting a next packet of

a sequence when an ACK signal is received and transmitting the last-transmitted packet when a NACK signal is received (see Advisory Action page 2, second paragraph). However, the Advisory Action does not propose that Nakajima's ACK and NACK signals indicate the packet number of a packet, as does the Appellants' claimed packet number information. Instead, the Advisory Action proposes that the ACK signal causes one event to occur (i.e., the transmission of a next packet of a sequence) and the NACK signal causes another event to occur (i.e., the transmission of a last-transmitted packet). Nakajima's disclosure of causal links between signals and actions is not the same as the Appellants' claimed subject matter of communicating an indication of a packet number to be transmitted in a next transmission unit.

Mohebbi is not cited in the Advisory Action or Final Rejection for supplementing the teachings of Nakajima with respect to the above-mentioned features distinguishing claim 38 from Nakajima.

b. Appellants' Response to Statement in Advisory Action that Nakajima Discloses Communicating a Packet Sequence Number in a Reverse Direction to That Claimed and Advisory Action's Silence on the Actually Claimed Communication

The Advisory Action expressly mentions that Nakajima discloses adding a sequence number to a packet conveyed from a base station to a mobile terminal (see page 2, second paragraph) but this subject matter is not recited in the Appellants' claims. The Advisory Action is completely silent as to whether Nakajima discloses the Appellants' claimed subject matter of adding such a sequence number to the ACK/NACK signal communicated from the mobile terminal to the base station. Thus, the arguments in the Advisory Action are misdirected, and the rejections based thereon should be reversed.

c. Response to the Failure of the Advisory Action to Rebut Appellants' Response to the Final Rejection

The Advisory Action: (1) proposes that Appellants argued in their Response dated February 23, 2009, that Nakajima fails to provide any indication of a packet sequence number and (2) limits its rebuttal to this issue. However, the Appellants did not make this argument in their Response or anything similar thereto. In fact, the Response noted that Nakajima identified packets of a transmission sequence by the sequence number identifiers of an N-th packet and an (N+1)-th packet (see Response page 5, second to last paragraph). Contrary to the statement in the Advisory Action, the Appellants actually argued in their Response that the applied references do not suggest the claimed subject matter of: (1) a communication terminal that communicates packet number information indicating the packet number of a packet that is requested to be transmitted in a next transmission unit and (2) that one of a plurality of base stations determines a packet to transmit in a next transmission unit based on the packet number information (see Response, paragraph bridging pages 1 and 2). Because the Appellants' Response traversed the Final Rejection with these arguments and the Advisory Action failed to rebut the actual arguments of the Appellants' Response, it is apparent that the Advisory Action has failed to establish or maintain a *prima facie* case of obviousness with regard to claim 38.

2. Appellants' Response to Arguments in the Final Rejection

a. Distinguishing Subject Matter

The Final Rejection acknowledges that Mohebbi does not disclose the Appellants' claimed subject matter of communicating packet-number indicating information from a communication terminal to a base station (see Final Rejection page 4, lines 2-7). To overcome this deficiency, the Final Rejection proposes that Nakajima discloses a base station that retransmits a previously transmitted packet when a NACK signal is received from a communication terminal and transmits a packet that the base station has not previously transmitted, from a sequence of packets, when an ACK signal is received (see page 4, penultimate paragraph, and paragraph bridging pages 6 and 7). The Final Rejection further proposes that Nakajima's ACK signal inherently indicates that a next packet in the sequence is to be transmitted subsequently and that Nakajima's NACK signal inherently indicates that the previously transmitted packet is to be retransmitted subsequently (see page 7, second paragraph).

Although Nakajima's ACK and NACK signals may inherently indicate whether a previously transmitted packet or not-previously transmitted packet is to be transmitted subsequently, as proposed in the Final Rejection, these signals do not provide any indication of a packet's sequence number, as does the Appellants' claimed packet number information. Nothing within the ACK and NACK signals provides any information as to whether a packet requested for transmission is the third, tenth, nineteenth, etc. packet in a sequence. The Final Rejection does not propose otherwise; instead, the Final Rejection merely proposes that the NACK/ACK signals indicate whether a packet previously/not previously transmitted by the base station is to be transmitted next.

Claim 38 recites: (1) a communication terminal that communicates packet number information indicating the packet number of a packet that is requested to be transmitted in a next transmission unit and (2) that one of a plurality of base stations determines a packet to transmit in a next transmission unit based on the packet number information. Indicating whether a previously transmitted packet or not-previously transmitted packet is to be transmitted next, as the Final Rejection proposes is inherently disclosed by Nakajima, is not the same thing as the Appellants' claimed subject matter of communicating information indicating the packet number of a packet that is to be transmitted next.

Moreover, claim 38 recites communicating: (1) ACK/NACK information and (2) request packet number information from a communication terminal to a base station, whereas Nakajima discloses communicating only ACK/NACK information from a communication terminal to a base station. Thus, while the Appellants' claimed subject matter and Nakajima have common subject matter of communicating ACK/NACK information from a communication terminal to a base station, Nakajima fails to disclose the instant claimed subject matter of additionally communicating request packet number information along with the ACK/NACK information.

Because Mohebbi and Nakajima fail to disclose the instant claimed subject matter of a communication terminal that communicates, from a communication terminal to a plurality of base stations, packet number information indicating the packet number of a packet that is requested to be transmitted in a next transmission unit, it necessarily follows *per force* that these references cannot disclose the Appellants' claimed subject matter of a base station that determines a packet to transmit in a next transmission unit based on the received packet number information.

Thus, the combined teachings of Mohebbi and Nakajima would not support a system in which each of a plurality of base stations communicating with a communication terminal would recognize, from a single feedback message, which packet the communication terminal wishes to receive in a next transmission unit, as does the Appellants' claimed subject matter. Instead, the base stations taught by Mohebbi and Nakajima would have to keep track of all communicated downlink packets and all feedback ACKs/NACKs to determine which packet is to be communicated next, which would be difficult or impossible for a communication terminal potentially moving in and out of range for some of the base stations.

The Appellants' claimed subject matter provides an advantage of distributing packet scheduling functionality among a plurality of base stations. Given that each base station may have no direct knowledge of the packets other base stations have sent to a communication terminal, the Appellants' claimed communication terminal provides each of the base stations with information indicating the packet number of the packet to be sent next and a selected base station communicates the indicated packet. Mohebbi and Nakajima fail to disclose this subject matter, and Nakajima expressly discloses that such packet-scheduling functionality is not possible. More specifically, the Final Rejection and the Advisory Action cite Nakajima's Fig. 2 and its accompanying description in the specification for a teaching to modify Mohebbi's system; however, Nakajima expressly discloses with respect to Fig. 2 that the mobile station cannot leave the service area of the base station until the data retransmission is complete. Thus, Nakajima provides no motivation to modify Mohebbi's system to achieve the Appellants' claimed subject matter.

Moreover, for the same reason that Nakajima does not disclose the above-mentioned subject matter of claim 38, Mohebbi does not implicitly disclose it, as proposed in the Final Rejection (see Final Rejection page 4, first paragraph).

Accordingly, the Appellants submit that the teachings of Mohebbi and Nakajima, considered individually or in combination, do not render obvious the subject matter defined by claim 38. More specifically, the applied references fail to disclose the claimed subject matter of: (1) a communication terminal that communicates, to a plurality of base stations, packet number information indicating the packet number of a packet that is requested to be transmitted in a next transmission unit and (2) a base station that determines a packet to transmit in a next transmission unit based on the received packet number information. Independent claim 46 similarly recites this subject matter distinguishing apparatus claim 30 from the applied references, but with respect to a method. Independent claim 43 recites feature (2), and independent claim 44 recites feature (1); the applied references disclose neither feature (1) nor feature (2).

Therefore, reversal of the rejections applied to claims 38, 43, 44, and 46 is deemed to be warranted. Dependent claims 39, 42, 45, 47, and 50 incorporate the above-mentioned subject matter distinguishing their respective base claims from Mohebbi and Nakajima. Therefore, reversal of the rejections applied to claims 39, 42, 45, 47, and 50 is also warranted.

b. Effect of Distinguishing Subject Matter

The Final Rejection proposes that Nakajima discloses ACK/NACK information that has a function of indicating the packet number of a packet that is requested to be communicated in a

next transmission unit (see Final Rejection page 7, second paragraph). The Appellants respectfully disagree.

Nakajima is related to basic, automatic retransmission control in one-to-one communication. More particularly, when a first station (equivalent to a base station of the claimed invention) receives an ACK from a second station (equivalent to the communication terminal of the claimed invention) after transmitting an N-th data packet, the first station then transmits an (N+1)-th data packet. On the other hand, when the first station receives a NACK from the second station after transmitting the N-th data packet, the first station then retransmits the N-th data packet.

Although the above-described automatic retransmission control does not cause any trouble in one-to-one communication, when a base station selected from a plurality of base stations transmits a packet to a communication terminal, such automatic retransmission control may cause trouble. As an example, it is assumed that communication is performed between a first base station, a second base station, and a communication terminal and that the first base station is selected first. If the selected first base station transmits the N-th packet and the communication terminal can receive the packet correctly, the communication terminal transmits an ACK to each base station. Since the first base station is selected, it may be presumed that channel quality between the first base station and the communication terminal is good and that channel quality between the second base station and the communication terminal is not good. Therefore, although an ACK transmitted from the communication terminal is received correctly at the first base station, the ACK may be received wrongly at the second base station, and, consequently, the second base station may determine that a NACK was received. In this case, as

in Nakajima, if ACK/NACK information alone is transmitted from the communication terminal, the second base station is then ready to retransmit the N-th packet. Next, when the second base station is selected, although the N-th packet has been already received at the communication terminal correctly, the second base station transmits the N-th packet.

By contrast with this, as in the Appellants' claimed invention, if the communication terminal transmits request packet number information indicating the packet number of a packet that is requested to be communicated in the next transmission unit in addition to ACK/NACK information, the second base station can then transmit the (N+1)-th packet. The above-described content is exemplified in Appellants' Figs. 3 and 9 and their supporting descriptions in the specification.

Further, although both ACK/NACK information and request packet number information may be received wrongly at a base station that is not selected, this probability is much lower than the probability that a communication terminal transmits only ACK/NACK information and this ACK/NACK information is received wrongly.

As described above, according to the Appellants' claimed invention, by transmitting both ACK/NACK information and request packet number information at a communication terminal, base stations can determine the packet number of a next packet that is transmitted according to the request packet number information, even if the base stations receive an ACK signal wrongly.

Thus, the Appellants' claimed invention overcomes the problem that the order of packets to be transmitted is not correct.

C. Rejections of Dependent Claims 40, 41, 48, and 49 under 35 USC 103 (a)

Dependent claims 40, 41, 48, and 49 incorporate the above-mentioned subject matter distinguishing their respective base claims from Mohebbi and Nakajima, and Parkvall is not cited in the Final Rejection for supplementing the teachings of Mohebbi and Nakajima with respect to the above-mentioned subject matter distinguishing these base claims from Mohebbi and Nakajima. Therefore, reversal of the rejections applied to claims 40, 41, 48, and 49 is deemed to be warranted.

D. Conclusion

In view of the law and facts stated herein, it is respectfully submitted that the rejected claim defines patentable subject matter. Therefore, reversal of the outstanding ground of rejection is respectfully solicited.

Respectfully submitted,

/James Edward Ledbetter/

Date: June 8, 2009

James E. Ledbetter
Registration No. 28,732

JEL/DWW/att
Attorney Docket No. 009289-02130
Dickinson Wright PLLC
1875 Eye Street, NW, Suite 1200
Washington, DC 20006
Telephone: (202) 659-6966
Facsimile: (202) 659-1559

VIII. CLAIM APPENDIX

38. A fast packet transmission system comprising a communication terminal and a plurality of base stations, wherein:

the communication terminal comprises:

an error detector that detects an error in a received packet;

a determiner that determines a packet number of the received packet;

a selector that selects a base station to communicate a packet in a next transmission unit according to channel states between the communication terminal and base stations; and

a terminal transmitter that communicates acknowledgment or negative acknowledgment information indicating whether an error is detected in the received packet, request packet number information indicating the packet number of a packet that is requested to be communicated in the next transmission unit, and base station selection information indicating the selected base station, to the base stations; and

each base station comprises:

a determiner that determines whether to communicate the packet in the next transmission unit based on the base station selection information;

a controller that determines a transmission target packet based on the acknowledgment or negative acknowledgment information and the request packet number information when the base station communicates the packet in the next transmission unit; and

a base station transmitter that communicates the transmission target packet determined in the controller to the communication terminal.

39. The fast packet transmission system according to claim 38, wherein the terminal transmitter communicates the request packet number information to the base stations only when the base station that communicates the packet is switched.

40. The fast packet transmission system according to claim 38, wherein the terminal transmitter communicates an adaptive modulation pattern together with the request packet number information to the base stations.

41. The fast packet transmission system according to claim 38, wherein the terminal transmitter communicates an adaptive modulation pattern together with the request packet number information to the base stations only when the base station that communicates the packet is switched and the communication terminal requests a repeat of a packet that is received before switching and is erroneous to the switched base station.

42. The fast packet transmission system according to claim 38, wherein the terminal transmitter communicates the request packet number information with transmit power higher than transmit power of other information.

43. A base station apparatus comprising:

a receiver that receives from a communication terminal, acknowledgment or negative acknowledgment information indicating whether an error is detected in a received packet at the communication terminal, request packet number information indicating a packet number of a packet that is requested to be communicated in a next transmission unit, and base station selection information indicating a base station selected by the communication terminal according to a channel state;

a determiner that determines whether or not to communicate a packet in the next transmission unit based on the base station selection information;

a controller that determines a transmission target packet based on the acknowledgement or negative acknowledgment information and the request packet number information when the base station communicates the packet in the next transmission unit; and

a transmitter that communicates the transmission target packet determined in the controller to the communication terminal.

44. A communication terminal apparatus comprising:

an error detector that detects an error in a received packet;

a determiner that determines a packet number of the received packet;

a selector that selects a base station to communicate a packet in a next transmission unit according to channel states between the communication terminal apparatus and base stations; and

a terminal transmitter that communicates acknowledgment or negative acknowledgment information indicating whether an error is detected in the received packet, request packet number

information indicating the packet number of a packet that is requested to be communicated in the next transmission unit at the communication terminal, and base station selection information indicating the selected base station, to the base stations.

45. The communication terminal apparatus according to claim 44, wherein the transmitter communicates the request packet number information to the base station only when the base station that communicates the packet is switched.

46. A fast packet transmission method of transmitting a packet from a base station to a communication terminal, the fast packet transmission method comprising the steps of:

detecting at the communication terminal, an error in a received packet;

determining at the communication terminal, a packet number of the received packet;

selecting at the communication terminal, a base station that communicates a packet in a next transmission unit according to channel states between the terminal apparatus and base stations;

communicating at the communication terminal, acknowledgment or negative acknowledgment information indicating whether an error is detected in the received packet, request packet number information indicating the packet number of a packet that is requested to be communicated in the next transmission unit at the communication terminal, and base station selection information indicating the selected base station, to the base stations;

determining at the selected base stations, whether to communicate the packet in the next transmission unit based on the base station selection information;

determining at the base stations, a transmission target packet based on the acknowledgment or negative acknowledgment information and the request packet number information when the base station communicates the packet in the next transmission unit; and

communicating at the base stations, the determined transmission target packet to the communication terminal.

47. The fast packet transmission method according to claim 46, wherein the request packet number information is communicated to the base stations only when the base station that communicates the packet is switched.

48. The fast packet transmission method according to claim 46, wherein an adaptive modulation pattern is communicated together with the request packet number information to the base stations.

49. The fast packet transmission method according to claim 46, wherein an adaptive modulation pattern is communicated together with the request packet number information to the base stations only when the base station that communicates the packet is switched and the communication terminal requests a repeat of a packet that is received before switching and is erroneous to the switched base station.

50. The fast packet transmission method according to claim 46, wherein the request packet number information is communicated with transmit power higher than transmit power of other information.

IX. EVIDENCE APPENDIX

There is no evidence submitted pursuant to 37 CFR §§1.130, 1.131, or 1.132 of this title or any other evidence entered by the examiner and relied upon by Appellant in the appeal.

X. RELATED PROCEEDINGS APPENDIX

There are no decisions rendered by a court or the Board in any proceeding identified pursuant to 37 CFR §41.37(c)(1)(ii).

DC 9289-2130 137440v1